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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,086	11/13/2001	Katsuhide Yajima	Q67205	6338
7590 03/30/2004				
SUGHRUE, MION, ZINN MACPEAK & SEAS, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037-3202			EXAMINER ELKASSABGI, HEBA	
			ART UNIT 2834	PAPER NUMBER

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,086

Applicant(s)

YAJIMA ET AL.

Examiner

Heba Elkassabgi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 4 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawanishi (U.S. Patent 5886438) and further in view of Nagata et al. (U.S. Patent 5486054).

Kawanishi discloses in figure #1 and #2 a stepping motor having a stator provided with a resin coil bobbin (10,11) formed by insert molding having at least two stator cores (7), in which the cores (7) are stacked in an axial direction of the motor, and each core (7) has two yokes an outer yoke (AA) and an inner yoke (BB). A rotor core (6) is accommodated within the stator (7), and the rotor (6) rotates while being urged by an urging member (5) in the axial direction of the rotor (6). A positional regulation part (fig#1 3) is located on one side face of the stator (7) and is integrally formed with the resin coil bobbins by insert molding. A support portion (Fig#2 9) which is composed of being a cap portion is integrally formed with the resin coil bobbins (10,11) by insert molding and that the cap portion has a circular hole on which a bearing (12) in which the support portion (9) is positioned, and located on another side face of the stator (7). The positional regulation part (3) and the support portion (9) regulate the position of the rotor

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both in the thrust and radial direction. In regards to claim 3 and 8 the position regulation part (3) is constituted of a bearing provided at the other end of the shaft (1). In regards to claim 5 and 10, the other end of the shaft is protruded from the bearing (3) is formed of a lead screw portion (1a) in the protruded portion. However, Kawanishi does not disclose that the bearing positioned at the support portion is a sliding bearing.

Nagata et al. in figure 1 discloses a stepping motor having two stator core portions, with a rotor located within the stator and a shaft that is urged by an urging member in an axial and rotating direction. Nagata et al. further discloses a sliding bearing (11), that is located within a support portion (cap 9) having a circular hole (10); in order that the bearing is fitted for sliding in the thrust direction of the rotary shaft. In regards to claim 2, the support portion holds (9) the sliding bearing and is provided integrally with the coil bobbin of the stator (5), further having an urging member (spring 15) that urges the sliding bearing in the thrust direction and is attached to the support portion (9).

It would have been obvious to one having ordinary skill in the art to combine the stepping motor structure of Kawanishi, with that of the sliding bearing structure and the urging in combination of the cap portion in order to slide in the thrust and rotational direction of the rotary shaft.

Kawanishi discloses the claimed invention except for the stator core being of metallic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a preferable material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its

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suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Kawanishi discloses the claimed invention except for the support portion integrally formed with the resin coil bobbin. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form an article as one piece, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. Howard v. Detroit Stove Works, 150 U.S. 164 (1893).

Allowable Subject Matter

Claims 4 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose a positional regulation part accepts indirectly an urging force of said urging member via a washer made of resin.

Response to Arguments

Applicant's arguments filed 01/06/2004 have been fully considered but they are not persuasive.

Applicant's arguments with respect to the rejections of claims 1-10 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of Kawanishi and Nagata et al.

In regards to Applicants argument that neither Nagata et al. nor Kawanishi do not disclose that the position regulation part and the support portion are integrally formed with the resin coil bobbin by insert molding. The claim as read by the examiner is that the position regulation part and the support portion are integrally formed with the resin coil bobbin, in which the resin coil bobbin is formed by insert molding. The claims as read do not clearly state that the resin coil bobbin, the support portion and the position regulation part as one unit are all together formed by insert molding.

However, the position regulation portion the support portion and the resin coil being formed by insert molding is a method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Further more, as applicant had previously stated in reply to non-final office action on 06/25/2003. That " the term "integrated" in the application does not necessarily mean that the materials become identical or form one structure". In which, the applicant does not clearly state that each piece is formed by insert molding. As read the resin coil is formed by insert molding.

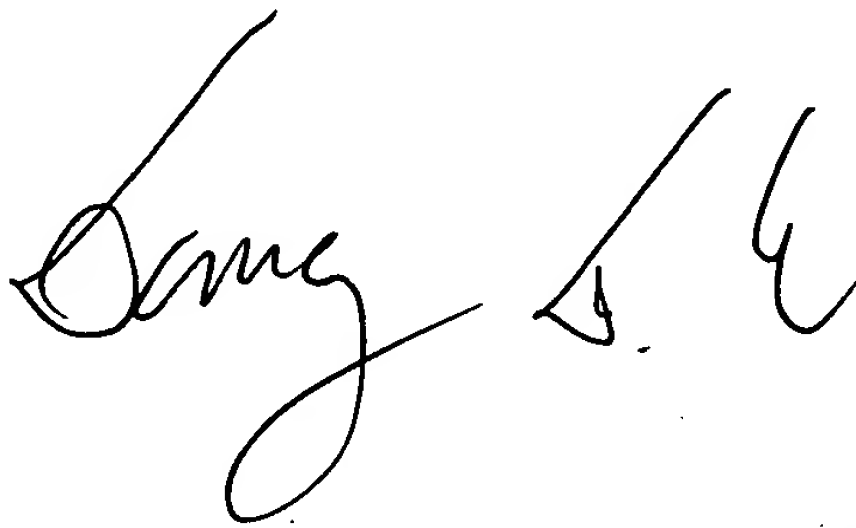
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (571) 272-2023. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Heba Y. Elkassabgi



DANG LE
PRIMARY EXAMINER